



PROCESS SPECIFICATION

ERA AVIATION INC.

GULF COAST DIVISION
LAKE CHARLES, LOUISIANA

PROCESS SPECIFICATION NO. 4002
INSERT INSTALLATION - HONEYCOMB PANELS

DATE

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Mark Jones

ERA PROCESS SPECIFICATION

ERA P S _____ 4002 _____

REV _____ I _____

DATE _____ 5/7/90 _____.

1. SCOPE

This specification establishes the requirements and procedures for the installation of inserts into honeycomb panels.

2. MATERIALS

Adhesive, Epoxy
299-947-100,
Type II, Class 2
Epon 934 A/B

Bell Helicopter Textron
P.O. Box 482
Fort Worth, Texas 76101

or

Epibond 8510 (Part A & B)
Class 2

M & T Chemicals, Inc.
Plastics Division
5121 San Fernando Rd. W.
Los Angeles, CA 90039

3. INSTALLATION PROCEDURES

- 3.1 Drill panel at proper location with #30 drill. Increase hole diameter to allow insert to fit snugly in hole.
- 3.2 Remove core to a minimum of 1/16 inch larger than diameter of insert.
- 3.3 Prepare adhesive in accordance with manufacturer's instructions.
- 3.4 Apply layer of adhesive to bottom of insert.
- 3.5 Install insert into panel and inject adhesive as shown in Figure 1.
- 3.6 Clean off excess adhesive. The excessive adhesive squeeze-out extruding from the potted areas shall be removed before curing. This excess and any adhesive that may have collected on the surface outside the bond area shall be cleaned off using a clean rag moistened with M.E.K. Observe safety precautions for the use of M.E.K.

4. QUALITY STANDARDS

- 4.1 The surface of the insert should be flush with the surface of the panel.
- 4.2 The surface of the insert should be parallel to the surface of the panel.

ERA P S 4002

REV I

DATE 5/7/90

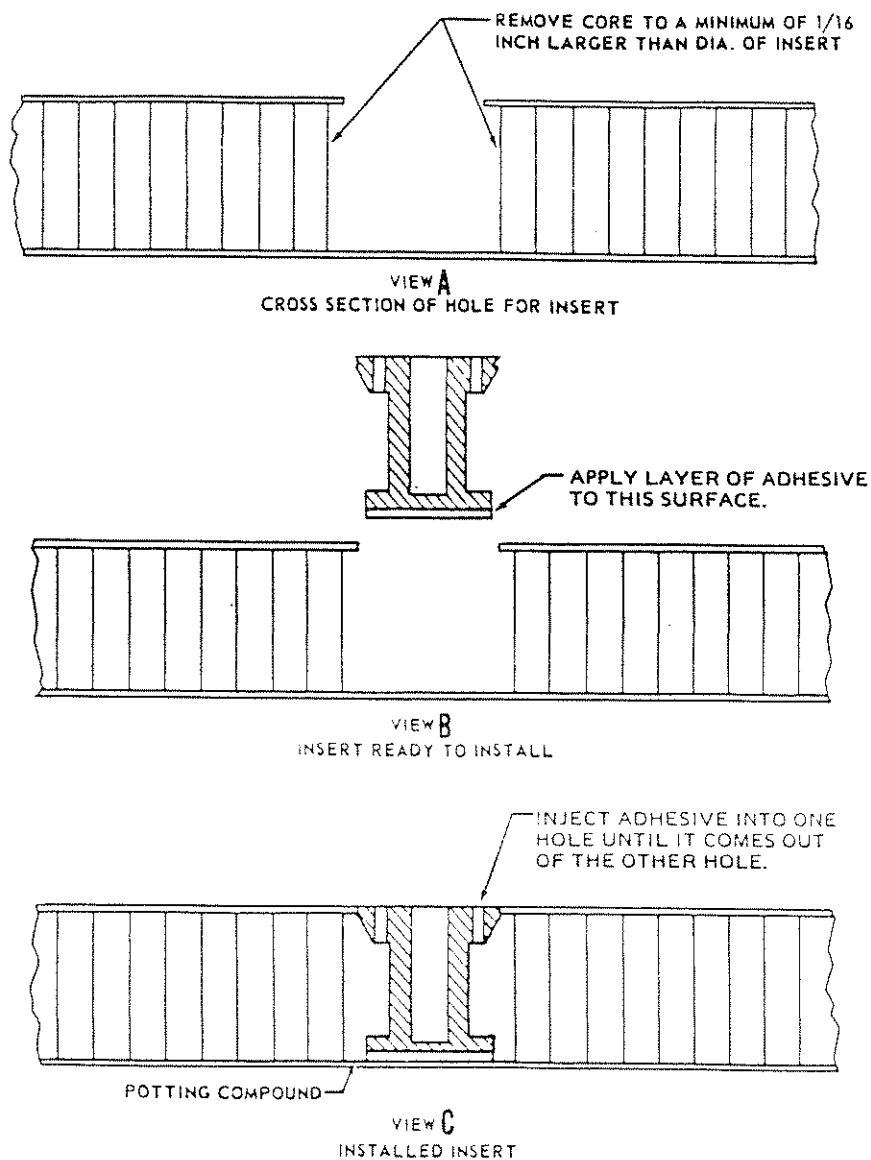


FIGURE 1

ERA P S 4002

REV I

DATE 5/7/90 .

5. INSTALLATION PROCEDURES GROMMET-TYPE AND BLIND OVAL HEAD INSERTS

Injecting Grommet-Type and Blind Oval-Head Inserts - Two piece grommet-type space for inserts and blind oval-head inserts shall be injected in the following manner:

- 5.1 Drill hole through panel faces and core (size depends on blueprint and/or insert) enlarge hole in honeycomb core from 1/16 to 1/8 inch larger in diameter than in the insert.
- 5.2 Deburr hole in face sheets and dimple if flush-type insert is to be used. See Figure 2.
- 5.3 Apply adhesive to flange of inserts and install. See Figures 2 and 3.
- 5.4 On blind oval-head inserts, a washer and screw coated with parting agent may be used to hold insert firmly in panel and protect the insert threads during cure of the adhesive. See Figures 3 and 5.
- 5.5 Drill 1/16 to 1/8 inch injection hole in the panel skin 1/16 to 1/8 inch outboard of insert head or face. Angle the injection hole down to the center of insert. Drill another hole on opposite side in the same manner. Injection holes may be drilled through either face for ease of operation. See Figures 3, 4, and 5.
- 5.6 Inject potting adhesive into only one of the drilled injection holes until a steady flow of adhesive is flowing from the other hole. See Figure 5.
- 5.7 Remove excess adhesive. See paragraph 3.6.

APPLY ADHESIVE TO FLANGES
OF INSERT TO SEAL

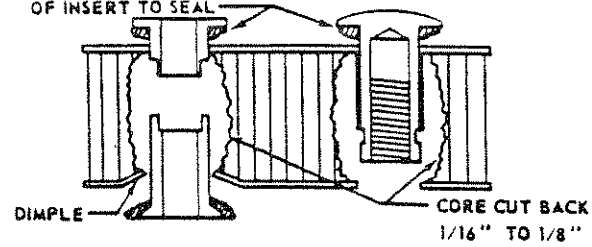


FIG. 2

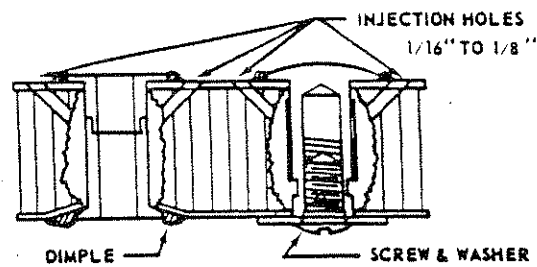


FIG. 3

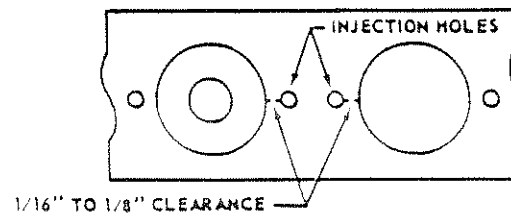


FIG. 4

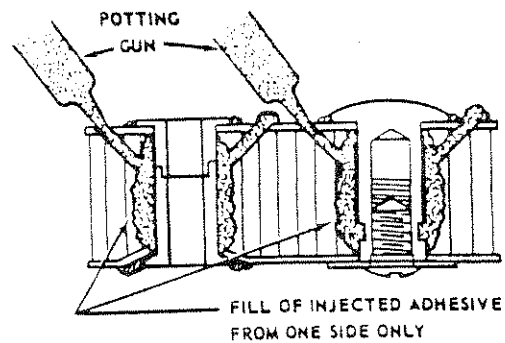


FIG. 5

ERA PS 4002

REV I

DATE 5/7/90.

6. EDGE FILLING

- 6.1 The insert material covered by this specification can also be used as an edge filler.
- 6.2 Lay down the honeycomb core edge to a minimum of .12 - maximum .18. See Figure 6.
- 6.3 Fill void with EA934.
- 6.4 Tape edges previously filled with EA934. Allow to cure.
- 6.5 Remove masking tape. Sand excess EA934 to desired finish. See Figure 7.

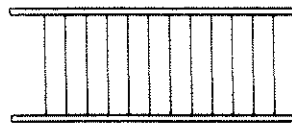


FIG. 6
LAY DOWN HONEY COMB
TO .12 MIN. - .18 MAX

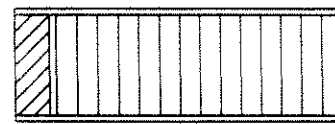


FIG. 7
SAND TO SMOOTH
SQUARE EDGE

